

REMARKS

The Final Office Action dated July 2, 2003 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Upon entry of this Response, claims 1-26 will be pending in the present application. Claims 1 and 14 are independent claims. Claims 1-26 are respectfully submitted for consideration.

Applicants thank Examiner Martir and her supervisor, Primary Examiner Noori, for conducting a personal Interview with Applicant's representative, Hermes M. Soyez, on October 16, 2003. The remarks submitted herebelow correspond with the agreement that was reached during the personal Interview.

Rejection of Claims 1-26 Under 35 U.S.C. §103(a):

Claims 1-26 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 5,371,450 to Hiraoka (Hiraoka '450) in view of U.S. Patent No. 5,912,025 to Hiraoka (Hiraoka '025) because, although it is acknowledged that Hiraoka '450 fails to disclose or suggest at least a mold clamping system, a second sensor to detect a mold clamping force, and a method of controlling the mold clamping control device, it has been alleged that Hiraoka '025 may be combined with Hiraoka '450 and that this combination discloses the claimed invention. This rejection is respectfully traversed.

Claim 1, upon which claims 2-13 depend, recites a mold clamping control device for use in an injection molding machine having a screw for injecting molten resin into a mold. According to claim 1, the mold clamping control device includes a first sensor detecting a relative position between a movable platen and a fixed platen to produce a detected platen position. The device also includes a second sensor detecting a mold clamping force exerted on the mold clamped by the movable platen and the fixed platen to produce a detected mold clamping force. In addition, the device includes a target value generator generating a target value between the movable platen and the fixed platen as a target platen position value and generating a target mold clamping force value. Further, the device includes a mold clamping control unit for calculating a position deviation and a mold clamping deviation, the position deviation being a deviation between the target platen position value and the detected platen position, the mold clamping deviation being a deviation between the target mold clamping force value and the detected mold clamping force, the mold clamping control unit being configured to selectively control a mold clamping motor based upon one of the position deviation and the mold clamping deviation.

Claim 14, upon which claims 15-26 depend, recites a method for controlling mold clamping in an injection molding machine. The method recited in claim 14, includes detecting a relative position between a movable platen and a fixed platen to produce a detected platen position. The method also includes detecting a mold clamping force exerted on a mold clamped by the movable platen and the fixed platen to produce a

detected mold clamping force. The method further includes generating a target value between the movable platen and the fixed platen as a target platen position value for generating a target mold clamping force value. In addition, the method includes calculating a position deviation and a mold clamping deviation, the position deviation being a deviation between the target platen position value and the detected platen position, the mold clamping deviation being a deviation between the target mold clamping force value and the detected mold clamping force value. Also, the method includes selectively controlling a mold clamping motor based upon one of the position deviation and the mold clamping deviation.

Using certain embodiments of the claimed invention, a uniform and stable mold clamping force may be provided to molded articles. Further, according to certain embodiments of the claimed invention, the mold clamping force may be controlled accurately. It is respectfully submitted that Hiraoka '450 and Hiraoka '025, taken either individually or in combination, fail to disclose the advantages of the present invention.

Hiraoka '450, in the title thereof, discloses a control unit capable of smoothly carrying out a switching operation between position and pressure feedback control systems. In FIG. 1 thereof, Hiraoka '450 also discloses an injection unit of a typical injection molding machine.

However, Hiraoka '450 fails to disclose or suggest either a clamping force or any manner in which to exert a clamping force.

Hiraoka '025, in the title thereof, discloses a control device for a motor-driven injection molding machine capable of generating a larger clamping force. In FIG. 1 thereof, Hiraoka '025 also discloses a mold clamping system.

As discussed during the interview, one of skill in the art would not be motivated to combine the disclosures of Hiraoka '450 and Hiraoka '025, at least because of their vastly differing functions. More specifically, at least because Hiraoka '450 discloses an injection unit while Hiraoka '025 discloses a clamping system, one of skill in the art would not be motivated to combine such dissimilar devices.

Also, as previously pointed out on page 7 of the Request for Reconsideration filed on October 15, 2001, two references may not be properly combined if one of the references has to be modified and if the "modification destroys the purpose or function of the invention disclosed in the reference", In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). In the present situation, Applicants respectfully submit that combining a clamping system and an injection unit would destroy the purpose and function of each.

At least in view of the above, Applicants respectfully submit that claims 1-26 are patentable over Hiraoka '450 in view of Hiraoka '025. Hence, reconsideration and withdrawal of the rejection of claims 1-26 under 35 U.S.C. §103(a) over Hiraoka '450 in view of Hiraoka '025 is earnestly solicited.

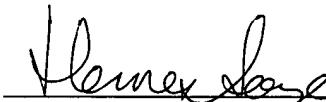
Applicants have addressed all of the comments included in the final Office Action and have overcome the rejection contained therein. Hence, Applicants respectfully submit that claims 1-26 have been placed in condition for allowance. It is therefore

respectfully requested that all claims pending in the present application be allowed, and that this application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Hermes M. Soyez, Ph.D.
Registration No. 45,852

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

HMS:lls